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| 10/547,060 | 08/26/2005 | Atsushi Utsubo | OKUDP0125US | 6150 |
| 51921 7590 05/28/2008 MARK D. SARALINO (MEI) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE 19TH FLOOR CLEVELAND, OH 44115 | | | | |
| EXAMINER | | | | |
| WON, BUMSUK | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/547,060

Applicant(s)

UTSUBO ET AL.

Examiner

Bumsuk Won

Art Unit

2889

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 8/25/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Dakin (US 2003/0102808) which is cited in the IDS.

Regarding claim 1, Dakin discloses a metal halide lamp (figure 1) having an arc tube (60) formed of ceramic (paragraph 4) and a pair of opposing electrodes (52 and 54), comprising: a Pr halide, a Na halide, and a Ca halide enclosed within the arc tube (paragraph 24 discloses the composition of the gas filled in the tube), wherein the Pr halide content H_p [mol], the Na halide content H_n [mol], and the Ca halide content H_c [mol] satisfy the relationships of: $0.4 \leq H_c/H_p \leq 15.0$; and $3.0 \leq$

Hn/Hp \leq 25.0 (paragraph 25, Pr halide – RE halide: 0-15%, Na halide: 45-86%, and Ca halide – Alkaline earth metal halide: 15-45%).

Regarding claim 2, Dakin disclose each of the Pr halide content, the Na halide content, and the Ca halide content is equal to or greater than 1.0 mg/cc (paragraphs 24 and 29, mercury is 18 mg and 3 to 7 mg/cc, metal halide is 50 mg, therefore around 9 to 20 mg/cc).

Regarding claim 3, Dakin discloses $0.4 \leq Hc/Hp \leq 4.7$ (paragraph 25, Pr is 0-15% and Ca is 15-45%).

Regarding claim 4, Dakin discloses $11.9 \leq Hc/Hp \leq 15$.

Regarding claim 7, Dakin discloses a general color rendering index Ra of 70 or more (paragraph 15), and a lamp efficiency of 100 LPW or more (Dakin has same structure as claimed in claim 1; therefore, the efficiency is incidental to the structure).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dakin in view of Alderman (US 2003/0062831).

Regarding claim 5, Dakin discloses all the claimed limitation except for an inner diameter D(mm) of the arc tube and a distance L(mm) between tips of the electrodes satisfy the relationship $4 \leq L/D \leq 9$.

Alderman discloses a metal halide lamp (figure 1) having L/D being between 3 and 10 (paragraph 3), for the purpose of enhancing the performance of the lamp.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an inner diameter D(mm) of the arc tube and a distance L(mm) between tips of the electrodes satisfy the relationship $3 \leq L/D \leq 10$ as disclosed by Alderman in the lamp disclosed by Dakin, for the purpose of enhancing the performance of the lamp.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dakin in view of Tsuchiya (US 6,166,491).

Regarding claim 6, Dakin discloses an outer tube (10) for accommodating the arc tube (60).

However, Dakin does not disclose an interspace between the arc tube and the outer tube is retained in a decompressed state at 1 kPa or less.

Tsuchiya discloses a lamp (figure 1) having an outer tube (23) and an arc tube (22), wherein an interspace between the arc tube and the outer tube is retained in a decompressed state at 1 kPa or less (column 4, lines 26-33), for the purpose of effectively contain the lamp and lead wires.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an interspace between the arc tube and the outer tube is retained in a decompressed state at 1 kPa or less as disclosed by Tsuchiya for the lamp disclosed by Dakin, for the purpose of effectively contain the lamp and lead wires.

Claims 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dakin in view of Kamoi (US 2004/0183472).

Regarding claim 8, Dakin discloses all the claimed limitation except for means for performing dimming of the lamp.

Kamoi discloses means for performing dimming of a lamp (figure 2), for the purpose of effectively performing dimming operation (80).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have means for performing dimming of the lamp as disclosed by Kamoi for the lamp disclosed by Dakin, for the purpose of effectively performing dimming operation.

Regarding claim 9, Kamoi discloses the means includes an electronic ballast (figure 2) for supplying power to the electrodes of the lamp; and the electronic ballast is capable of regulating the power within a range of 25 to 100% of the rating (figure 17). The reason for combining is same as claim 8.

Regarding claims 10-12 and 15, Dakin discloses all the claimed limitation except for means for performing dimming of the lamp.

Kamoi discloses means for performing dimming of a lamp (figure 2), for the purpose of effectively performing dimming operation (80).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have means for performing dimming of the lamp as disclosed by Kamoi for the lamp disclosed by Dakin, for the purpose of effectively performing dimming operation.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dakin in view of Alderman, in further view of Kamoi.

Regarding claim 13, Dakin in view of Alderman discloses all the claimed limitation except for means for performing dimming of the lamp.

Kamoi discloses means for performing dimming of a lamp (figure 2), for the purpose of effectively performing dimming operation (80).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have means for performing dimming of the lamp as disclosed by Kamoi for the lamp disclosed by Dakin in view of Alderman, for the purpose of effectively performing dimming operation.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dakin in view of Tsuchiya, in further view of Kamoi.

Regarding claim 14, Dakin in view of Tsuchiya discloses all the claimed limitation except for means for performing dimming of the lamp.

Kamoi discloses means for performing dimming of a lamp (figure 2), for the purpose of effectively performing dimming operation (80).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have means for performing dimming of the lamp as disclosed by Kamoi for the lamp disclosed by Dakin in view of Tsuchiya, for the purpose of effectively performing dimming operation.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-

272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bumsuk Won/
Examiner, Art Unit 2889

/Toan Ton/
Supervisory Patent Examiner
Art Unit 2889